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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,098	01/10/2007	Mario Leclerc	GENOM.071NP	1280

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EXAMINER

PITRAK, JENNIFER S

ART UNIT	PAPER NUMBER
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1635

NOTIFICATION DATE	DELIVERY MODE
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10/07/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/559,098	Applicant(s) LECLERC ET AL.	
	Examiner JENNIFER PITRAK	Art Unit 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-26 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,9-26 and 35-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Remarks

Claims 1, 2, 4-26, and 35-38 are pending. In the response filed 06/25/2008, Applicants canceled claim 3 and amended claim 4. Claims 5, 6, 9-26, and 35-38 are withdrawn from consideration as being directed to non-elected subject matter. Claims 1, 2, 4, 7, and 8 are under examination.

In the response filed 06/25/2008, Applicants assert that a terminal disclaimer was filed to U.S. Patent 7,083,928. However, no terminal disclaimer was actually filed, nor was a terminal disclaimer required for overcome any of the rejections set forth in the 03/26/2008 Office Action.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows: The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

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The disclosure of the prior-filed application, Application No. 60/474,950, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. Provisional Application No. 60/474,950 does not provide support for the instant claims 7 and 8, which are directed to SEQ ID NO: 3. SEQ ID NO: 3 is not supported by the 60/474,950 application but first appears in the PCT/CA04/00824 application. Thus, claims 7 and 8 are provided the benefit of the filing date of PCT/CA04/00824, which is 06/03/2004. Claims 1, 2, and 4 are provided the benefit of the filing date of the provisional application 60/474,950, which is 06/03/2003, as these claims are supported by the 60/474,950 application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 7, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because claim 4 depends from canceled claim 3. For the purposes of examination these claims have been interpreted as depending from claim 1

Claim Rejections - 35 USC § 103 - Withdrawn

The rejection of claims 1-4 under 35 U.S.C. 103(a) is withdrawn in view of the cancellation of claim 3 and Applicant's arguments that the LeClerc, *et al.* reference is not available as prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 103 - New

Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho, *et al.* (2002, item 16 on 12/01/2005 IDS) and Gold (1996, JBC, v.270:13581-4, of record).

The claims are to an optical sensor for detecting a target comprising a single-stranded aptamer complementary to the target, and a water-soluble cationic polythiophene derivative of the formula shown in claim 1. Claim 2 specifies that the target is selected from the group consisting of potassium ions, small organic molecules, amino acids, proteins, whole cells, and nucleotides. Claim 4 specifies that the aptamer is single-stranded DNA (ssDNA).

Ho, *et al.* teach an optical sensor for detecting a target comprising a ssDNA complementary to the target and the exact water-soluble cationic polythiophene derivative of the formula shown in claim 1 (see Scheme 1, Polymer 1 on page 1549). Ho, *et al.* teach the use of this optical sensor for detecting a nucleic acid target (p.1550, first column) and that the optical sensors could be used for the detection of DNA-hybridization events (p.1551, first column). Ho, *et al.* do not teach that the ssDNA of their optical sensor is an aptamer.

Gold teaches that aptamers are ssDNA molecules that interact with target molecules (p.13581, first paragraph and first paragraph of second column). Gold also teaches that the aptamers are useful for detecting proteins and that the aptamers can be modified with visualization-enhancing adducts and reporters (p.13583, "Uses of Molecules Derived from SELEX").

It would have been obvious to one skilled in the art at the time of the instant application to make a polythiophene-ssDNA complex for detecting target molecules, as taught by Ho, *et al.* It further would have been obvious to use an aptamer in the polythiophene-ssDNA complex

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because aptamers are ssDNA molecules that bind to target molecules. One of ordinary skill in the art would immediately recognize that an aptamer could be substituted for the ssDNA in the ssDNA-polythiophene complex taught by Ho, *et al.* with a reasonable expectation of success. Thus, claims 1, 2, and 4 would have been obvious at the time of filing of the instant application.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho, *et al.* and Gold as applied to claims 1, 2, and 4 above, and further in view of Michaud, *et al.* (02/15/2004, Analytical Chemistry, V.74:1015-20).

The claims are to an optical sensor for detecting D-adenosine comprising the aptamer having SEQ ID NO: 3 and a water-soluble cationic polythiophene derivative of the formula shown in claim 1.

Ho, *et al.* and Gold teach polythiophene-aptamer optical sensor complexes as described in the above rejection of claims 1, 2, and 4. Ho, *et al.* and Gold do not teach the complexes wherein the aptamer is SEQ ID NO: 3 and recognizes the target, D-adenosine.

Michaud, *et al.* teach the D-adenosine-specific aptamer having the precise sequence of the instantly claimed SEQ ID NO: 3 (Figure 1, "ADE"). Michaud, *et al.* teach that the D-adenosine-specific aptamer was useful for distinguishing between the adenosine enantiomers, D-adenosine and L-adenosine (p.1016, bottom of right column; p.1017, Figure 2).

It would have been obvious to one skilled in the art at the time of the instant application to make a polythiophene-ssDNA optical sensor complex for detecting a target molecule wherein the ssDNA is an aptamer, as taught by Ho, *et al.* and Gold. It further would have been obvious to use the aptamer having SEQ ID NO: 3 in the polythiophene-aptamer because Michaud, *et al.* teach that SEQ ID NO: 3 is an aptamer useful for detecting D-adenosine and using this aptamer

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would have been a simple substitution of one aptamer for another known aptamer. Thus, claims 7 and 8 would have been obvious at the time of filing of the instant application.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER PITRAK whose telephone number is (571)270-3061. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James (Doug) Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer Pitrak, PhD
Examiner
Art Unit 1635

/Tracy Vivlemore/
Primary Examiner, Art Unit 1635